

REMARKS

Please reconsider this application in view of the above amendments and following remarks. Applicant thanks the Examiner for carefully reconsidering this application.

Disposition of Claim

Claim 1 is pending in this application. Claim 1 is, thus, independent.

Claim Amendments

Claim 1 has been amended in this reply to clarify the present invention. Specifically, claim 1 has been amended to recite having the pair of end face cams being inclined such that the starting end parts of the end face cams are closer to the movable member than the rear end parts of the end cam faces. No new matter has been added by this reply, as support for this amendment to the claim may be found, for example, within Figure 7 of the originally filed application.

Specification Amendments

The specification has been amended in paragraphs [0003], [0007], [0008], [00013], [00018], [0027], [0046], and [0070] in this reply. These amendments are to correct translation errors and misspellings that were provided with the originally filed application, in addition to correct the arrangement of the specification. Accordingly, Applicant notes that these amendments are fully supported by the originally filed application and no new matter has been added.

Claim Rejections under 35 U.S.C. § 102

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,904,644 ("Oshima"). Independent claim 1 has been amended in this reply. To the extent that this rejection applies to independent claim 1 as amended, this rejection is respectfully traversed.

Claim 1 recites a hinge apparatus having a first hinge member, a second hinge member turnably connected to the first hinge member, a movable member arranged on a turning axial line of the first and second hinge members in such a manner as to be turnable about the turning axial line and movable in a direction of the turning axial line, and a biasing means adapted to bias the movable member toward the first hinge member. One of the opposing surfaces of the first hinge member and the movable member is provided with a pair of end face cams in such a manner as to extend in a peripheral direction about the turning axial line in a symmetrical arrangement about the turning axial line. The other of the opposing surfaces of the first hinge member and the movable member is then provided with a pair of abutment parts in such a manner as to be urged against the pair of end face cams by the biasing force of the biasing means and is adapted to co-act with the pair of end face cams to convert the biasing force of the biasing means to a turn biasing force. The movable member is turned by the turn biasing force then, and the pair of abutment parts is moved along the pair of end face cams toward rear end parts from starting end parts of said end face cams. The pair of end face cams are inclined such that the starting end parts are closer to the movable member than the rear end parts, and the rear end parts of the pair of end face cams is provided with gentle inclination surface parts, respective inclination angles of the gentle inclination surface parts being smaller than inclination angles of

parts located closer to the starting end parts of the end face cams than the gentle inclination surfaces.

Oshima discloses, particularly in Figure 6, a hinge assembly 1 having a movable disc 5, a fixed disc 6, in which the discs 5, 6 are rotated by a biasing force of a biasing member 7. The movable disc 5 then includes a pair of projections 54 that are received within a pair of recesses 64 formed within the fixed disc 6. As shown in Figure 17 of Oshima, the recesses 64 may be formed to have a concave surface 64a formed within the central area of the recess 64 and concave surfaces 64b formed on the opposite sides thereof.

However, Applicant respectfully asserts that Oshima fails to teach all of the elements of independent claim 1, as amended. Specifically, claim 1 requires the end cam faces to be inclined such that the starting end parts of the end cam faces are closer to the movable member than the rear end parts of the end cam faces. For example, as shown in Figure 7 of the present application, the first hinge member 11 includes a pair of end face cams 41 formed thereon. The starting end parts of each of the end face cams 41 are provided with a main inclination surface part 41a, and the rear end parts of each of the end face cams 41 are provided with a gentle inclination surface part 41b. These starting end parts and rear end parts of the end face cams 41 are inclined in such a way such that the starting end parts of the end face cams 41, having the main inclination surface part 41a, are closer to the movable member 42, as compared to the rear end parts of the end face cams 41, having the gentle inclination surface part 41b. Further, the inclination angle of the gentle inclination surface 41b is set to be smaller than that of the main inclination surface part 41a.

In Oshima, the recess 64 of the fixed disc 6 is provided with two inclined surfaces 64a, 64b. However, the inclination angle of the inclined surface 64b, which is at the starting end

part of the recess 64, is smaller than that of the inclined surface 64a, which is at the center of the recess 64. As such, Oshima fails to show or suggest having the end cam faces to be inclined such that the starting end parts of the end cam faces have the higher inclined surface parts the rear end parts of the end cam faces have the lower inclined surface parts, as required by claim 1 of the present application.

In view of the above, Oshima fails to teach each limitation recited in independent claim 1, as amended. Thus, independent claim 1 is patentable over Oshima. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 12088/043001).

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Respectfully submitted,

By 

Jonathan P. Osha
Registration No.: 33,986
OSHA · LIANG LLP
1221 McKinney St., Suite 2800
Houston, Texas 77010
(713) 228-8600
(713) 228-8778 (Fax)
Attorney for Applicant

Attachments